



Australian Government

ICTTCR301 Build a telecommunications radio structure

Release: 1

ICTTCR301 Build a telecommunications radio structure

Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 2.0.

Application

This unit describes the skills and knowledge required to build a foundation, and assemble and mount a telecommunications radio structure.

It applies to individuals who have a dual specialist classification as rigger installers and who may install radio structures for Worldwide Interoperability for Microwave Access (WiMAX) wireless broadband access networks, antenna installation for radio and television broadcasting, and cellular mobile communications.

Work functions in the occupational areas where this unit may be used are subject to regulatory requirements. Refer to the ICT Implementation Guide Companion Volume or the relevant regulator for details of licensing, legislative or certification requirements.

Pre-requisite Unit

ICTTCR201 Use rigging practices and systems on telecommunications network structures

ICTTCR202 Use operational safety in a telecommunications rigging environment

ICTTCR203 Use safe rigging practices to climb and perform rescues on telecommunications network structures

Unit Sector

Telecommunications – telecommunications rigging installation

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare materials and secure site	1.1 Notify appropriate personnel and take necessary precautions to minimise, control or eliminate hazards that may exist during work

	activities 1.2 Determine nature and location of structure from construction design plans, relevant legislation, codes, regulations and standards 1.3 Determine materials, tools and equipment required from construction design plans 1.4 Check steel for assembly against construction design plans to ensure no parts are missing 1.5 Secure and clean site according to site security instructions for public safety
2. Construct foundations for radio structure	2.1 Locate other services according to industry practice, and arrange for relocation of services if required 2.2 Oversee excavation of foundation according to engineering specifications, and construction of foundations according to construction design plans 2.3 Install earthing according to construction design plans, enterprise work health and safety (WHS) guidelines and industry practice 2.4 Provide samples of concrete for analysis according to enterprise guidelines and manufacturer's specifications, relevant standards and regulations
3. Assemble and mount telecommunications radio structure	3.1 Select area free of interference and close to construction site suitable for structure assembly 3.2 Assemble radio structure in sections on ground according to engineering specifications, using personal protective equipment and following safety guidelines 3.3 Mount and secure preassembled sections to tower construction according to plans, specifications and enterprise WHS guidelines 3.4 Maintain vertical positioning of structure within twist tolerances during construction phase 3.5 Secure and tension guy wires according to construction design plans, enterprise WHS guidelines and industry practice
4. Complete administrative duties	4.1 Update original design plan with approved amendments and return to design section 4.2 Secure and clean up site to original condition in environmentally safe manner 4.3 Notify client and obtain sign off

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.2-1.5, 2.2-2.4, 3.2, 3.3, 3.5	Interprets textual information from relevant sources to plan, identify all job requirements and adhere to procedures and standards
Writing	1.1, 4.1, 4.3	Accurately completes relevant reports and documentation, using clear and technically specific language and diagrammatic information
Oral Communication	1.1, 2.1, 4.3	- Uses listening and questioning skills to confirm understanding of requirements, and participates in a verbal exchange of ideas and solutions - Uses appropriate, detailed and clear language to disseminate information
Numeracy	1.2, 2.2, 3.2-3.5	Interprets numerical information and measures, and calculates ratios and scale
Navigate the world of work	1.2, 1.5, 2.1-2.4, 3.2-3.5	Takes personal responsibility for adherence to legal and regulatory requirements, standards, manufacturer's guidelines and industry practice relevant to own work context, and draws attention to any issues that may affect self or others when preparing for and implementing building activities
Get the work done	1.1-1.5, 2.1-2.4, 3.1, 4.2	- Applies formal problem solving processes when tackling an unfamiliar problem in relation to equipment and logistics, breaking complex issues into manageable parts and identifying and evaluating several options for action - Takes responsibility for planning and organising own workload, identifying ways of sequencing and combining elements for greater efficiency, and considering how to link with the work of others - Applies formal processes when preparing for building, producing plans with logically sequenced steps, and reflecting awareness of time and resource constraints and the needs of others in the immediate vicinity - Implements actions as per plan, making slight

		adjustments if necessary and addressing unexpected issues • Makes a range of critical and non-critical decisions in relatively complex building situations, taking a range of constraints into account in relation to equipment, tools and materials
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Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTTCR301 Build a telecommunications radio structure	ICTTCR3062A Build a telecommunications radio structure	Updated to meet Standards for Training Packages	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>

Assessment Requirements for ICTTCR301 Build a telecommunications radio structure

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Performance Evidence

Evidence of the ability to:

- undertake pre-construction checks to ensure a safe working environment
- construct foundations according to engineering specifications
- select site for hoisting equipment, ensuring location is safe for the operator and the construction
- preassemble the structure at ground level, ensuring completion of each assembled component
- assemble and mount a telecommunications radio structure, including temporary and permanent guy anchors
- install functional and protective earthing systems, following security and safety procedures.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- summarise the impact that weather conditions impose on the constructions and installation of telecommunications structures
- describe the safety risks associated with the installation of telecommunications equipment in remote areas including:
 - hypothermia symptoms and methods of prevention and treatment
 - electromagnetic radiation (EMR) safety practices
 - personal protective equipment for rigging projects
 - working-at-heights safety practices
- discuss the features and operating requirements of:
 - construction equipment

- rigging equipment
- identify the information required to build a telecommunications radio structure
- describe rigging practices and systems for telecommunications radio structures
- list legislation, codes of practice and other formal agreements that impact on the work activity
- summarise licensing and regulatory issues applying to rigging practices and systems on telecommunications radio structures
- describe manufacturer's requirements for safe operation of equipment
- discuss the following work health and safety (WHS) requirements:
 - WHS legislation and regulations
 - company procedures relating to the activity and site conditions
- discuss typical issues and challenges that can occur on an installation site.

Assessment Conditions

Gather evidence to demonstrate consistent performance in conditions that are safe and replicate the workplace. Noise levels, production flow, interruptions and time variances must be typical of those experienced in the telecommunications – telecommunications rigging installation field of work and include access to special purpose tools, equipment and materials.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

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